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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,762	10/04/2004	Kenneth S. Kump	GEMS8081.240	5761
27061	7590	06/10/2005	EXAMINER	
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (GEMS)			SONG, HOON K	
14135 NORTH CEDARBURG ROAD			ART UNIT	
MEQUON, WI 53097			PAPER NUMBER	
			2882	

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No. 10/711,762	Applicant(s) KUMP, KENNETH S.	
	Examiner Hoon Song	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-32 is/are allowed.
- 6) ☒ Claim(s) 1-6, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 7-16, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/10/05</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoheisel (US 2003/0031296A1).

Regarding claim 1, Hoheisel teaches an x-ray imaging system comprising:

an x-ray detector (5) configured to detect radiation emitted by an x-ray source and attenuated by a subject to be imaged, and provide an electrical output that may be processed for reconstruction of an image of the subject (figure 2) and

at least one electronic sensor (9) configured to detect gravitational loads placed on the x-ray detector (since a degree of bending from the flexible detector can be occurred by gravitation load, the bending sensor is considered as a sensor for detecting gravitational load, paragraph [0019]).

Regarding claim 2, Hoheisel teaches the x-ray detector includes a circuit board with electronics to control operation of the detector and wherein the at least one electronic sensor is disposed on the circuit board (figure 2).

Regarding claim 3, Hoheisel teaches the at least one electronic sensor is powered by a power supply of an x-ray scanner when the x-ray detector is tethered to the x-ray scanner (figure 1).

Regarding claim 5, Hoheisel teaches a controller configured to read out data from the at least one electronic sensor at predefined intervals (semiconductor based detector).

Regarding claim 18, Hoheisel teaches one or more mechanical sensors (9) that mechanically detect gravitational loads placed on the x-ray detector (gravitational strain).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoheisel.

Regarding claim 4, Hoheisel fails to teach a battery disposed in the x-ray detector that provides power to the at least one electronic sensor.

An x-ray detector having built in battery is known.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the x-ray detector with known detector battery, since the battery would provide better portability of the detector.

Regarding claim 6, Hoheisel fails to teach the controller is configured to read out data from the electronic sensor at 250  $\mu$ m intervals.

Digital detector reading frequency of certain intervals is known.

It would have been obvious to one having ordinary skill in the art at the time the invention was made the detector to have 250  $\mu\text{m}$  interval, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Accordingly, the control interval would provide accurate and reliable data readings.

Regarding claim 17, Hoheisel fails to teach the x-ray detector includes flash storage connected to store data output by the electronic sensor.

Sensor having a flash memory is known.

It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the detector of Hoheisel with the known sensor memory since it would provide better portability of the detector while the sensor stores sensing signal for later use.

### ***Allowable Subject Matter***

Claims 21-32 are allowed over the prior art.

Claims 7-10, 11-16 and 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 7-10, Hoheisel fails to teach the controller is further configured to assign at least one of a time and a date stamp to each reading of an electronic sensor as claimed in dependent claim 7.

Regarding claims 11-16, Hoheisel fails to teach the controller is further

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configured to compare the gravitational load of a current reading of an electronic sensor to a threshold and illuminate an LED on the x-ray detector based on the comparison as claimed in dependent claim 11.

Regarding claim 19, Hoheisel fails to teach the one or more mechanical sensors includes a fluid filled label sealed to a surface of the x-ray detector, wherein the fluid changes color when exposed to a given gravitational load as claimed in dependent claim 19.

Regarding claim 20, Hoheisel fails to teach the at least one electronic sensor includes a plurality of accelerometers as claimed in dependent claim 20.

Regarding claims 21-28, the prior fails to teach an x-ray detector having an accelerometer configured to detect gravitational events and measure a gravitational load placed on the x-ray detector of a gravitational event as claimed in independent claim 21.

Regarding claims 29-33, the prior art fails to teach an x-ray detector having means of measuring a gravitational load placed on the x-ray detector and a controller configured to read out data from the electronic means and determine if the x-ray detector has been subjected to a potential damaging gravity load as claimed in independent claim 29.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is (571) 272-2494. The examiner can normally be reached on 8:30 AM - 5 PM, Monday - Friday.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272 - 2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HKS

616105  
HES

  
DAVID V. BRUCE  
PRIMARY EXAMINER